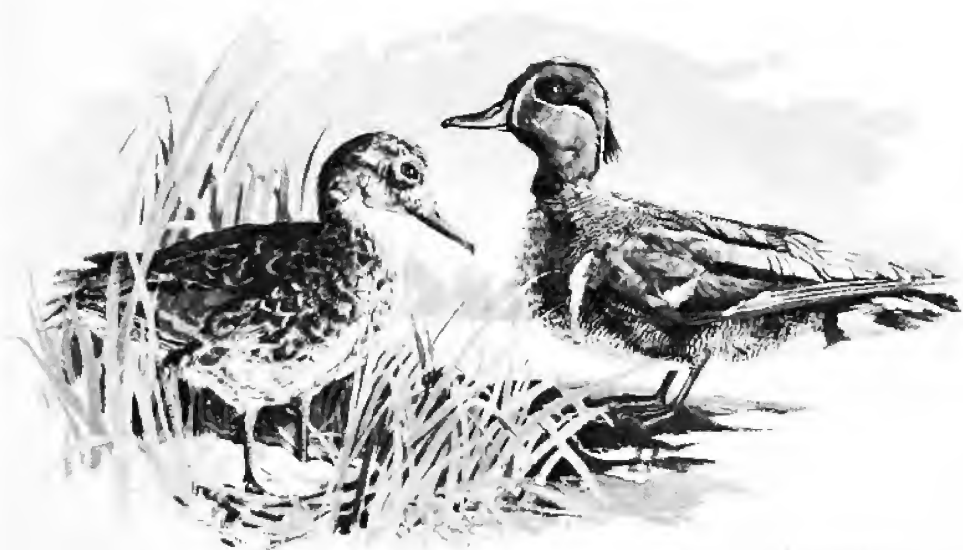


# **IOWA BIRD LIFE**



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# Cattle Egrets In Iowa, 1961-1977

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Department of Animal Ecology  
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AMES, IOWA

The remarkable spread of Cattle Egrets (*Bubulcus ibis*) from the Old World to North and South America has been fairly well documented and summarized (Sprunt 1955, Crosby, 1972). Evidently reaching South America in the 1870s, Cattle Egrets spread slowly through northern South America. By 1941 or 1942 they first reached southern Florida, but their presence there was not documented until films taken in 1952 were examined. In 1953 Cattle Egrets were nesting in Florida and by 1956 had been reported from numerous other states, including breeding records from three other southeastern states. Their range expanded rapidly, and by 1964 Cattle Egrets had reached California as well as much of the West Indies and Central America. The nesting range likewise has expanded rapidly, and Cattle Egrets now nest along the Atlantic Coast north to New Jersey (Custer and Osborn, 1977) as well as at numerous inland localities.

The first Cattle Egret reported in Iowa was a single individual seen by M. W. Weller on 21 April 1961 at Little Wall Lake, Hamilton County (Weller, 1961). This individual was collected and now is in the collection at Iowa State University. Although numerous photographs of more recent sighting of Cattle Egrets exist, to my knowledge, this is the only specimen from Iowa. Since this first record, Cattle Egrets have been seen in Iowa on numerous occasions. Many of these sightings have been unreported, and others are scattered in the literature. The goal of this paper is to summarize both published and unpublished records of Cattle Egrets in Iowa.

## Methods

To gather records of Cattle Egrets, I have gone through back issues of *Iowa Bird Life* and *American Birds* (and its predecessor *Audubon Field Notes*) back to 1961. I also have contacted numerous birders throughout Iowa, and through *Iowa Bird Life*, I have solicited information on unpublished records of Cattle Egrets. In addition, I have received a number of unpublished reports from students at Iowa State University and Iowa Conservation Commission employees. I realize that there is some risk in accepting such records, but in virtually all the cases in which I could not interview the person, the report mentioned the bird's white plumage, buffy back, and-or association with cattle. Thus, I am confident that these records of this easily identified bird are accurate. I am sure that I have missed some sightings and would appreciate receiving a note on past ones that I have missed as well as future sightings of Cattle Egrets in Iowa.

## Results

Through 1977 I have records of 84 sightings of Cattle Egrets in Iowa totaling about 229 birds (Appendix A). I am sure that this total is conservative, especially because I received so many records in 1977 when others learned that I was interested in the species. Starting with the first record in 1961, the number reported was low throughout the 1960s (Table 1). I know that some records here are missing

Table 1. Cattle Egret sightings in Iowa by year from 1961 through 1977

Year	No. of Sightings		
1961	1	1970	3
1962	0	1971	5
1963	1	1972	3
1964	0	1973	7
1965	0	1974	6
1966	0	1975	10
1967	0	1976	8
1968	0	1977	37
1969	3		

inasmuch as Grant (1963) says there were four records for the state by 1963, but I can find only two of them in the literature. In any case, starting in 1969 there was either a great increase in the numbers occurring in Iowa or a greater tendency for sightings to be reported. This increase continued through 1977 when at least 37 sightings were made.

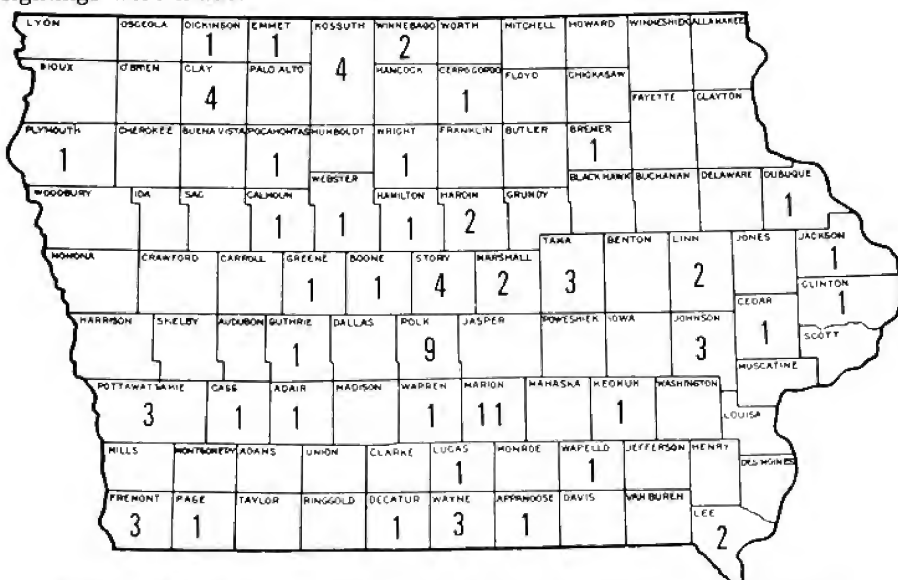


Figure 1. Location, by county, of Cattle Egret sightings in Iowa, 1961-1977.

Cattle Egrets have been reported from at least 41 of Iowa's 99 counties (Figure 1). These records span much of Iowa, but surprisingly few have been seen in the eastern or western extremes of the state along the Mississippi and Missouri rivers. The greatest concentration of sightings is from central Iowa, with 36 of the records coming from the belt of counties extending south from Hamilton and Hardin counties. The large number of observations from Polk, Marion, Story, Clay, and Kossuth counties certainly can be attributed to the intensity of observation there and the high likelihood of birds being reported. It is surprising that so few birds have been seen in eastern Iowa around Cedar Rapids and Davenport where there are numerous observers and seemingly suitable habitat. It is clear that Cattle Egrets are likely to be reported from almost any county in the state.

Although I do not have a breakdown of habitats utilized, most records for which the information is available indicate that the birds were seen in pasture lands, generally associated with cattle. In most cases a single bird was reported, but six reports involved flocks of more than 10 birds, the largest being 18 (Table 2).

Table 2. Frequency distribution of number of Cattle Egrets seen in each sighting in Iowa, 1961-1977

No. of birds seen	No. of times that number seen *	No. of birds seen	No. of times that number seen *
1	42	8	1
2	14	11	1
3	8	12	1
4	4	14	1
5	2	15	2
7	2	18	1

\* Two records of 1 or 2, and three records with number unreported are omitted here.

The extreme dates for which Cattle Egrets have been reported in Iowa are 20 March 1977 and the last two weeks of November 1970. Between those extremes, Cattle Egrets have been reported in every month with peaks in April, May, and September (Table 3). The single July record is of a bird that stayed near Montrose in Lee County from May through September 1977. Otherwise, there are no records between 11 June and 22 August, indicating that Cattle Egrets do not normally summer in Iowa. The number of sightings in April and May probably indicates both a true peak in their abundance in the state as well as coinciding with a peak time of field activity by Iowa's birders.

Table 3. Cattle Egret sightings in Iowa by month, 1961-1977. A bird seen in the same place over more than one calendar month is recorded here for all months in which it was seen.

Month	No. of Sightings		
January	0	July	1
February	0	August	4
March	1	September	12
April	16	October	8
May	36	November	6
June	7	December	0

#### Discussion

Although it is clear from the data presented here that Cattle Egrets are being reported in Iowa with increasing frequency, to date there is no indication that they have ever attempted to breed in the state. Most records are during migration periods and are generally from widely scattered points throughout the state. These facts plus the preponderance of reports of single birds all indicate that we are seeing migrants or postbreeding wanderers in Iowa. Herons are well known for their postbreeding dispersal, and this probably accounts for many of the late-summer and fall records. Somewhat more puzzling is the question of where the spring birds are going. Cattle Egrets started nesting in central Minnesota in 1971 (Green and Janssen, 1975) and in Wisconsin in 1974 (Tessen, 1975) or perhaps earlier. Colonies in both these states remain small, and it seems likely that at least some of the spring birds in Iowa are migrants that have "overshot" colonies south of Iowa. It remains to be seen if Cattle Egrets will ever attempt to nest in Iowa and, if so, where.

In a 1975 survey of heronries along the Atlantic Coast, Custer and Osborn (1977) found Cattle Egrets nesting in 64 sites, always in association with other species of wading birds. They were found most commonly in association with the following species, listed in order of importance: Louisiana Heron (*Hydranassa tricolor*), Snowy Egret (*Egretta thula*), Little Blue Heron (*Florida caerulea*), Great Egret (*Casmerodius albus*), and Black-crowned Night Heron (*Nycticorax nycticorax*).

(McCrimmon, 1978) found that in a mixed colony of Cattle Egrets, Great Egrets, Snowy Egrets, Louisiana Herons, and Little Blue Herons, the Great Egrets nested earlier, higher, and in more accessible nest sites than the other four. Thus the three small herons, which are the prime nesting associates of Cattle Egrets and do not nest in Iowa, may be more important in forming a colony for Cattle Egrets to nest in than are Great Egrets. This may explain why Cattle Egrets have not nested in one of the Great Egret-Great Blue Heron (*Ardea herodias*) colonies along the Mississippi River. Also, these colonies are located in the tops of tall trees (Thompson, 1977), but Cattle Egrets generally nest in low trees and shrubs (McCrimmon, 1978). Although open pasture land that is suitable feeding habitat for Cattle Egrets is abundant in parts of Iowa, wetlands suitable as feeding areas for the three small herons and the Great Egret are not abundant. Thus, the shortage of wetlands for the other herons may prevent them from nesting in Iowa, and this in turn has prevented the nucleus of a Cattle Egret colony from being started. Because Cattle Egrets also will nest with Black-crowned Night Herons (Custer and Osborn 1977), Cattle Egrets may attempt to nest in one of these colonies such as the one at West Hottes Lake in Dickinson County (Nigus, 1977).

#### Summary

Starting with the first record in Iowa in 1961, Cattle Egrets have been seen on at least 84 occasions, the frequency increasing in the 1970s. Cattle Egrets have been seen throughout the state, especially in the central counties. Most sightings involve one or two birds, usually in spring or fall migration. Cattle Egrets have not yet attempted to nest in Iowa but have nested in states north of us and may attempt to nest here in the future.

Acknowledgements: I am indebted to the many observers throughout the state who sent me records of Cattle Egrets sightings. Space does not permit me to list them all here, but I am especially indebted to G. Black, W. Brown, N. Halmi, and P. Petersen who responded to a "blanket order" for Cattle Egret sightings and sent me numerous records. R. Antonette and J. Kline kindly allowed me access to records in the files at Union Slough National Wildlife Refuge.

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# Appendix A. Summary of Cattle Egret Records in Iowa, 1961-1977

Date	County	Location	No.	Observer	Source
21 April 1961	Hamilton	Little Wall Lake	1	M. W. Weller	I.B.L. 31:44-45
10 May 1963	Wright	Elm Lake	1	Martin Grant	I.B.L. 33:38, A.F.N. 17:408
11 May 1969	Greene	Dunbar Slough	1	J. Faaborg	I.B.L. 39:38, A.F.N. 23:596
27 May 1969	Clay	Round Lake	2	M. W. Weller	I.B.L. 39:61, A.F.N. 23:665
8 Nov. 1969	Plymouth	near Akron	1	E. Bryant	I.B.L. 39:87
6 June 1970	Polk	near Des Moines	1	D. Mooney, W. H. Brown, M. E. Warters	I.B.L. 40:71
12-27 Oct. 1970	Marion	near Pleasantville	1	Gladys Black, J. Beamer	I.B.L. 41:25
last 2 weeks Nov. 1970	Marion	?	1	Andy Bromet	A.F.N. 25:65
late April 1971	Story	Hendrickson Marsh	1	S. Hanselman	I.B.L. 41:45, 89
5 May 1971	Wayne	near Seymour	1	Charlotte Scott	I.B.L. 41:49
5 May 1971	Calhoun	Lohrville	2	Mrs. I. H. McDonald	I.B.L. 41:49
6 May 1971	Bremer	near Sumner	1	Clarise Hewitt	I.B.L. 41:49
31 May 1971	Dickinson	N. of Spirit Lake	3	Mrs. R. T. Repass	I.B.L. 41:89
5 May 1972	Story	Ames	2	Mr. and Mrs. P. Rod	I.B.L. 42:37
6 May 1972	Story	Ames	2	ISU ornith. class	I.B.L. 42:37
12 May 1972	Linn	1 mi. N. Cedar Rapids	1	Lillian Serbousek	I.B.L. 42:34, 37
4 May 1973	Johnson	Swan Lake	14	Fred Kent	I.B.L. 43:46, 51
12 May 1973	Pottawattamie	Avoca	1	Mrs. E. A. Getscher, Ruth Phipps	I.B.L. 43:46, pers. commun.
17 May 1973	Polk	Red Rock floodpool	1	W. Criswell	I.B.L. 43:74, 77
4 June 1973	Kossuth	Union Slough, N.W.R.	1	refuge personnel	refuge files
11 June 1973	Linn	Ely	?	Lillian Serbousek	I.B.L. 43:74
5 Sept. 1973	?	?	4	Donald Gillaspey	I.B.L. 43:74
23 Sept. - 3 Oct. 1973	Marion	Red Rock Refuge	1	Gladys Black, W. Criswell	I.B.L. 43:104, A.B. 28:59
9 May 1974	Fremont	Forney Lake	2	Ruth Phipps	I.B.L. 44:43
17 May 1974	Warren	S. of Beech	1	Lynn Padelford	I.B.L. 44:71, pers. commun.
18 May 1974	Kossuth	Union Slough N.W.R.	1	refuge personnel	refuge files
20 May 1974	Marion	N. of Lake Red Rock	1	Gladys Black, Linda Beamer	I.B.L. 44:71, pers. commun.
22 August 1974	Fremont	Forney Lake	1	Ruth Phipps	I.B.L. 44:71, pers. commun.
22 Oct. 1974	Boone	?	12	Janice Powers	A.B. 29:65
ca 13-27 April 1975	Wayne	2 mi. N. Seymour	2	Charlotte Scott	I.B.L. 45:56, pers. commun.

## CATTLE EGRETS

27 April 1975	Marion	near Pleasantville	4	Gladys Black	I.B.L. 45:56
28 April 1975	Polk	N. of Polk City	3	D. Mooney, W. H. Brown	I.B.L. 45:56, pers. commun.
28-30 April 1975	Polk	N. of Polk City	4	D. Mooney, W. H. Brown	I.B.L. 45:56, pers. commun.
30 April 1975	Wapello	Ottumwa	5	Charles Ayres	I.B.L. 45:56
9 May 1975	Pottawattamie	N. side Council Bluffs	3	Janet Greer	pers. commun.
10 or 11 May 1975	Dubuque	Dubuque	1	I.O.U. spring meeting, G. Crossley	I.B.L. 45:39
17 May 1975	Kossuth	Union Slough N.W.R.	1	refuge files	
6 June 1975	Polk	Chichaqua area	15	Jim Layton	I.B.L. 45:92
Oct. 1975	Marion	¼ mi. E. of Columbia	3	D. Bingamon, G. Black	pers. commun.
10 April 1976	Decatur	Lamoni	3	Genevieve De Long	I.B.L. 46:55
24 April 1976	Polk	N. of Polk City	?	W. H. Brown	pers. commun.
27 April 1976	Story	5 mi. S. of Ames	1	M. Koob	pers. commun.
7 May 1976	Marion	Pleasantville	5	Gladys Black, L. Padellford	I.B.L. 46:55
12-17 May 1976	Winnebago	N. of Lake Mills	7	Charles Hall	I.B.L. 46:55
24 May 1976	Polk	N. of Polk City	1 or 2	W. H. Brown, et al.	I.B.L. 46:55, pers. commun.
Spring 1976	Johnson	Coralville	3	Lillian Serbousek	I.B.L. 46:55
3 Sept. 1976	Clay	W. of Trumbull Lake	1	J. Dinsmore, T. Nigus	I.B.L. 46:112
20-22 March 1977	Wayne	5 mi. S. of Seymour	2	Charlotte Scott	I.B.L. 47:57, pers. commun.
1 April 1977	Tama	3 mi. S. of Gladbrook	1	D. Strojohann	pers. commun.
12 April 1977	Pottawattamie	1 mi. N. of Lake Manawa	1	J. Greer	pers. commun.
15 April 1977	Pocahontas	near Gilmore City	1	Mr. and Mrs. M. Hodgell	I.B.L. 47:57, pers. commun.
15 and 25 April 1977	Polk	near Des Moines	1	G. Armstrong	I.B.L. 47:57
28 April -	Marion	N. of Lake Red Rock	3	G. Black, W. Jones, Mr. and Mrs. E. Johnson	I.B.L. 47:57, pers. commun.
8 May 1977	Marshall	4 mi. W. of LeGrand	1	D. Van Waus	I.B.L. 47:57, pers. commun.
29 April 1977	Jackson	10 mi. W. of Maquoketa	8	C. Kurtz	pers. commun.
6 May 1977	Cerro Gordo	2 mi. N. of Mason City	2	F. Heinz, Mrs. G. Dodd	I.B.L. 47:57, pers. commun.
7-9 May 1977	Winnebago	1 mi. N. of Forest City	1	R. Sayles	I.B.L. 47:57, pers. commun.
8 May 1977	Clinton	Hauntown	1	Mrs. J. S. Cotton	pers. commun.
8-15 May 1977	Emmet	1 mi. E., 1 mi. S. of Estherville	1	Connie Greig	pers. commun.
ca 10 May 1977					
10-17 May 1977	Adair	4 mi. S. of Stuart	1	Mrs. W. Tiernan	pers. commun.
13-20 May 1977	Hardin	1 mi. N., 2¼ mi. W. of Whitten	1	G. Seward, B. Proescholdt	pers. commun.

# CATTLE EGRETS

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16 May 1977	Hardin	1 mi. N., 1/2 mi. W. of Whitten	3	G. Seward, B. Proescholdt	pers. commun.
19 May 1977	Clay	Smith's Slough	1	M. Ryan	pers. commun.
30 May, 2 June 1977	Clay	Dan Green Slough, Dewey's Pasture	1	J. Dinsmore, T. Nigus	I.B.L. 47:99, pers. observ.
May 1977	Keokuk	Delta	1-2	Richard Thomas	pers. commun.
May - Sept. 1977	Lee	Montrose	7	Kristi Curtis	pers. commun.
10 June 1977	Marshall	4 mi. W. of LeGrand	1	D. Van Waus	I.B.L. 47:99, pers. commun.
23 August 1977	Tama	Otter Creek Marsh	2	L. Erickson, E. Weiner	pers. commun.
28 August 1977	Page	N. of Shenandoah	18	Ruth Phipps	pers. commun.
4 Sept. 1977	Cass	2 mi. N. of Lewis	11	K. Hill	pers. commun.
6 Sept. 1977	Lucas	5 mi. S. of Lucas	1	R. George	pers. commun.
9 Sept. 1977	Tama	1 mi. S., 2 mi. W. of Montour	1	V. and J. Hicks	pers. commun.
9 Sept. 1977	Johnson	3 mi. NW. of North Liberty	2	D. Van Waus	pers. commun.
15 Sept. 1977	Kossuth	Union Slough N.W. R.	2	B. Nelson, refuge personnel	refuge files
18 Sept. 1977	Guthrie	Bays Branch	1	G. Burns	pers. commun.
20 Sept. 1977	Polk	Jester Park	4	G. Burns, W. H. Brown, et al.	I.B.L. 47:143, pers. commun.
24-30 Sept. 1977	Marion	S. of Lake Red Rock	15	J. Stravers, G. Black	I.B.L. 47:143, pers. commun.
21 Oct. 1977	Marion	1/4 mi. E. of Columbia	1	D. Binghamon, G. Black	pers. commun.
25 Oct. 1977	Lee	Montrose	1	B. Hittman	I.B.L. 47:143
27 Oct. - 2 Nov. 1977	Webster	near Moorland	1	D. Ferrin, J. Greiner, W. Roberts	pers. commun.
30-31 Oct. 1977	Marion	1 mi. N., 4 mi. E. of Pleasantville	2	G. Black, Mr. and Mrs. H. Freemyer	pers. commun.
2 Nov. 1977	Cedar	2 mi. E., 3 mi. S. of Bennett	1	Kristin Vood	pers. commun.
4 Nov. 1977	Appanoose	N. of Centerville	2	M. Payne	pers. commun.
early Nov. 1977	Fremont	near Hamburg	2	I. Getscher	I.B.L. 47:143

1. I.B.L. -- Iowa Bird Life, A.F.N. -- Audubon Field Notes, A.B. -- American Birds, pers. commun. includes unpublished records that have been given to me orally, by letter or by letter to Gladys Black, which she in turn has passed on to me.

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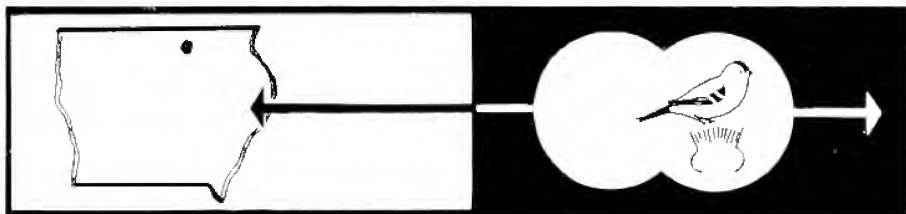
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## Worth, Mitchell & Chickasaw Counties

GENE BURNS

Jamaica, Iowa

A Labor Day weekend trip of 870 miles on Sept. 2 and 3, 1978 to 40 birding areas in the above mentioned counties gave my wife and me a total of 77 species during our various stops. Both days were excellent for birding and the weather was clear, almost calm and day-time temperatures near 90.

The top birding areas we found in each county were: in Worth County at the Fertile Mill Park at the south edge of Fertile where many species were found and we were delighted to have observed 8 migrant Pine Warblers. This is a beautiful park and will be worth your stop. Elk Creek Marsh also in Worth County north and east of Rice Lake is another excellent birding area. I do not know the size of this area but it must be several hundred acres and we observed many herons, shore birds and grassland species in this marsh. In Mitchell County we found Spring Park just west of Osage along the Cedar River to be a very fine area. In Chickasaw County, we recommend the beautiful Chickasaw Mill Park west of Ionia where we observed a good sized flock of Cedar Waxwings playing and feeding among the rocks and rapids in the river which runs through the park area.

After a day on the road with only coffee, cookies and fruit, we drove to Charles City for our evening meal and an overnight stay at the Parkview Motel. The next morning sunrise found us awake and ready to be on the road again. However, we had mixed feelings about the day. We were going to be checking out our last county. As we had already driven several thousand miles checking out 27 counties previously we were relieved that our driving would soon be over, and yet on the other hand we felt quite saddened that these experiences we were having driving to these different counties to check the various birding areas in our beautiful State of

Iowa would also soon be coming to an end. County number 28, Chickasaw, was very rewarding to us as all the previous 27 counties had been. We took several pictures at the Chickasaw Park mentioned above, had coffee and then completed our tour of this beautiful county.

I am sure there are several more good birding area in these three counties that could be found by anyone interested in doing so if they want to take the time to find them.

#### Worth

1. Fertile Mill Park, South edge of Fertile, 22 acres, all facilities. This is a beautiful park and has a walk bridge over a stream. Also there is a dam and an old mill. Many species were observed here, it is a very good area.

2. Haugen Timber Park, 2 miles west and 1 mile north of Fertile, 19 acres, undeveloped.

3. Rice Lake (East side), 1 mile north Joice. Several species including several Canada Geese, a good area.

4. Elk Creek Marsh, 3 miles north and 1 mile east of Rice Lake. Acreage unknown but it must be several hundred acres. This is an excellent area where we found many herons, shorebirds, and several other species.

5. Turvold Timber, 6 miles southwest of Northwood, 36 acres, undeveloped.

6. Helgeland Wildlife area, 1 mile south of Northwood, 5 acres, no facilities, stream.

7. Ochee Yahola Park, 4 miles west 2½ miles north of Northwood, 160 acres, all facilities except water, a good area.

8. Hartland Forest, 6 miles northwest of Northwood, 40 acres, undeveloped.

9. Christianson-Taylor Wildlife Area, 7 miles northwest of Northwood, 82 acres, undeveloped.

10. Silver Lake Recreation Area (North shore), 1 mile west of Silver Lake, 27 acres, all facilities except water, a good area.

1. Silver Lake Access (South shore), South end of Silver Lake, 4 acres.

12. Clark Area, 2 miles northeast of Kensett, 14 acres, undeveloped.

13. Worth County Lake, 1 mile north, 2 miles east of Kensett, 8 acres, all facilities, except water, there are two martin houses in this area.

14. Deer Creek Wildlife Area, 2½ miles northwest of Carpenter, 75 acres, undeveloped.

15. Deer Creek Game Area, 7½ miles east of Northwood, 40 acres, undeveloped.

#### Mitchell

1. Markhams Pond, 2 miles northwest of Otranto, 33 acres, no facilities.

2. Otranto Park, East edge of Otranto, 5 acres, all facilities, a good area.

3. Halvorson Park, 1½ miles south of St. Ansgar, 11 acres, all facilities.

4. County "S" Refuge, 2 miles south of St. Ansgar, no facilities.

5. Interstate Park, West edge of Mitchell, 27 acres, all facilities except water.

6. Spring Park, 2 miles west of Osage, all facilities, stream, a good area.

7. Riverside Park, East edge of Stacyville, all facilities, stream.

8. Gerbig's Woods, 2 miles southeast of Stacyville, 20 acres, undeveloped.

9. New Haven Pot Holes, 6 miles east, 2 miles north of Osage, 168 acres, no facilities, lake, outdoor classroom, an excellent birding area.

10. Pioneer Park, 6 miles east, 4 miles north of Osage, 20 acres, water, toilets, picnicking, lake, a good birding area.

11. Koon's Forest, ½ mile southeast of Brownsville, 7 acres, no facilities.

12. Melrose Lake, New Haven, 4 acres, lake, no facilities.

13. Sleeping Duck Marsh, 1 mile south of Riceville, 15 acres, no facilities, walk in access only. A great many Common Nighthawks seen in this area.

14. Lake Hendricks, 1 mile north of Riceville, includes a lake with camping.

#### Chickasaw

1. Cedar View Park, Nashua, all facilities, river. We found many swallows, Killdeer and jays, a good birding area.

2. Howard Woods, 2 miles northwest of Nashua (in Floyd County), 20 acres, all facilities except electricity, lake. Several warblers and other species observed here, a very good birding area.

3. Chickasaw Park, 2½ miles west of Ionia, 32 acres, all facilities except electricity. We found several Cedar Waxwings here. A beautiful area and very good for birding.

4. Twin Ponds, 2 miles south and 3 miles east of Ionia, 157 acres, all facilities, except electricity, lake, stream, a good area.

5. Wapsie Access Area, 1 mile south, 2½ miles west of North Washington, 80 acres, no facilities, stream.

6. Haus Park, Northeast edge of North Washington, 7 acres, all facilities except electricity, stream.

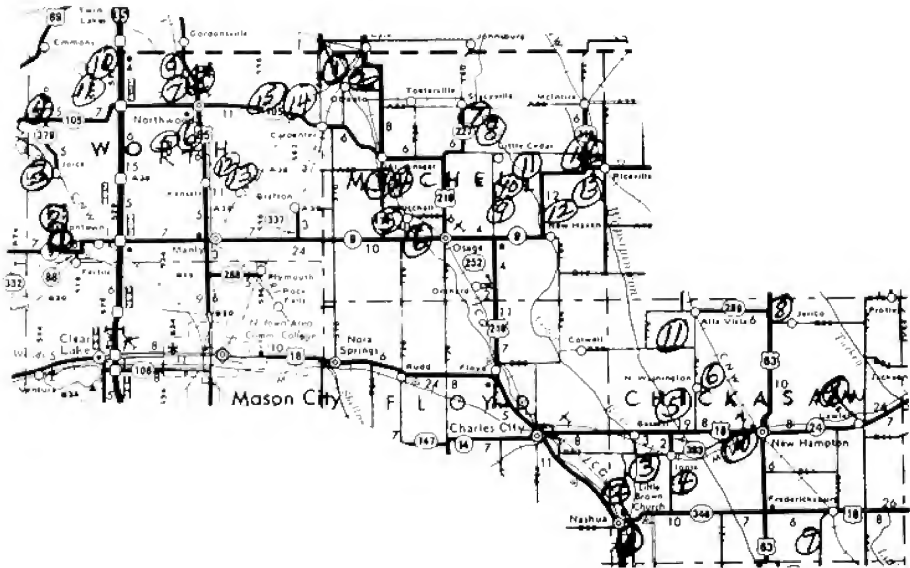
7. Split Rock Park, 4 miles south, 2 miles west of Fredericksburg, 80 acres, all facilities except electricity, lake. We found many Barn and Cliff Swallows, a good birding area.

8. Saude Park, 5 miles east, ½ mile north of Jericho, 13 acres, all facilities except electricity and a stream.

9. Adolph Munson Park, 3½ miles northwest of Lawler, water, toilets, picnicking.

10. Devin Woods, 3 miles north, 1 mile west of New Hampton, 12 acres, no facilities.

11. Goodale Conservation Area, 2 miles south, 5 miles west of Alta Vista, 22 acres, toilets, picnicking, includes a stream.



## CONVENTION



## IOU 1978 Fall Meeting

MARY LOU PETERSEN  
DAVENPORT

The fall meeting of the Iowa Ornithologists' Union was held in Ames, Iowa on September 23 and 24, 1978. The group gathered for a banquet on September 23 in the Campanile Room of the Iowa State University Student Union. The meal was excellent.

Vice president Carl Kurtz welcomed the group. President George Crossley responded by thanking Carl and the Ames people for their work. He noted that the I.O.U. was organized in Ames in February of 1923. President Crossley asked members attending for the first time to introduce themselves.

President Crossley appointed John Osness of Waterloo, Beryl Layton of Cedar Rapids and Dorothy Brunner of Nora Springs as the nominations committee. He appointed Ed Crocker of Storm Lake, Carl Kurtz of St. Anthony and Wayne Pritchard of Des Moines to the committee to research the feasibility of a teacher scholarship for ornithology or ecology. He said we need a date for the spring meeting in Waterloo. It is tentatively scheduled for May 12 and 13, 1979 at the Grout Museum in Waterloo. President Crossley said that the executive council is considering an invitation to Keosauqua for the fall '79 meeting. He told the group that the Regional Conference of the National Audubon Society will be meeting in Dubuque on October 13-15, 1978.

Vice president Kurtz discussed the morning field trips. He also proposed the possibility that the spring meeting of I.O.U. in Waterloo might be joint with The Nature Conservancy.

Two door prizes were awarded. Lucile Liljedahl of Marion and Irene Triplet of Spencer received Sierra Club calendars.

The evening's program was in three parts. First, Jim Bednarz, an I.S.U. graduate student, discussed his research on the Red-shouldered Hawk. After his interesting and informative presentation, he urged members to write their congressman for help in saving the Ferguson Tract, a woodland adjacent to Effigy Mounds National Monument. The secretary was instructed to write a letter in the name of the I.O.U. recommending that this tract be saved. Maxine Schwanke of Cedar Falls moved that the I.O.U. go on record as favoring the preservation of the Ferguson Tract. It was unanimously approved by those voting.

The second part of the program was presented by Dr. James Dinsmore of I.S.U. He summarized some of the work being done on various research projects by graduate and undergraduate students in the Animal Ecology Unit. Dr. Dinsmore told the group that Jim Bednarz won the first annual Hawk Mountain Research Award for his raptor research on the Red-shouldered Hawk.

The third part of the program was a member's slide fest. Mrs. Hazel Diggs, Richard Bierman, Dorothy Brunner, Peter Petersen, Marlys Huff, Gene Burns and Carl Kurtz participated.

The following morning the members met at 6:30 a.m. to disperse on the three field trips. The morning was bright and birding was good. Following the noon luncheon at Emma McCarthy Park in Ames, President Crossley thanked the hosts

and then turned the meeting over to Peter Petersen who conducted the compilation of the day's birding. One hundred and nine species were seen.

Bird List -- (109). Pied-billed Grebe, Double-crested Cormorant, Great Blue Heron, American Bittern, Glossy Ibis, Canada Goose, Wood Duck, American Wigeon, Mallard, Blue-winged Teal, Northern Shoveler, Turkey Vulture, Osprey, Northern Harrier, Sharp-shinned Hawk, Red-tailed Hawk, Broad-winged Hawk, Rough-legged Hawk, American Kestrel, Common Bobwhite, Ring-necked Pheasant, Wild Turkey, American Coot, Killdeer, Greater Yellowlegs, Lesser Yellowlegs, Solitary Sandpiper, Spotted Sandpiper, Common Snipe, Dowitcher (sp), Pectoral Sandpiper, Herring Gull, Caspian Tern, Rock Dove, Mourning Dove, Yellow-billed Cuckoo, Barred Owl, Common Nighthawk, Chimney Swift, Belted Kingfisher, Common Flicker, Red-bellied Woodpecker, Red-headed Woodpecker, Yellow-bellied Sapsucker, Hairy Woodpecker, Downy Woodpecker, Great Crested Flycatcher, Eastern Phoebe, Empidonax (sp), Eastern Pewee, Tree Swallow, Bank Swallow, Barn Swallow, Blue Jay, American Crow, Black-capped Chickadee, Tufted Titmouse, White-breasted Nuthatch, Red-breasted Nuthatch, House Wren, Carolina Wren, Marsh Wren, Sedge Wren, Gray Catbird, Brown Thrasher, American Robin, Wood Thrush, Swainson's Thrush, Blue-gray Gnatcatcher, Ruby-crowned Kinglet, Cedar Waxwing, European Starling, Yellow-throated Vireo, Solitary Vireo, Red-eyed Vireo, Philadelphia Vireo, Warbling Vireo, Black-and-white Warbler, Tennessee Warbler, Orange-crowned Warbler, Nashville Warbler, Northern Parula, Yellow Warbler, Magnolia Warbler, Yellow-rumped Warbler, Black-throated Green Warbler, Chestnut-sided Warbler, Bay-breasted Warbler, Palm Warbler, Common Yellowthroat, Canada Warbler, House Sparrow, Eastern Meadowlark, Western Meadowlark, Red-winged Blackbird, Common Grackle, Brown-headed Cowbird, Scarlet Tanager, Northern Cardinal, Rose-breasted Grosbeak, Dickcissel, American Goldfinch, Rufous-sided Towhee, Savannah Sparrow, LeConte's Sparrow, Vesper Sparrow, Chipping Sparrow, Swamp Sparrow, and Song Sparrow. Seen on Saturday, September 23 only, Ovenbird.

Registered Attendance -- 93

AMES: Janice Cay, Wayne Davis, James Dinsmore, A. J. Englehorn, Marilyn Glasson, Gordon Joslin, Ted LaGrange, Kim Norris, Tacye Pederson, Charles Savage, Harriett Simmons and Hank and Linda Zaletel.

AUDUBON: Rita Efta.

BOONE: Marie Carlson.

BURLINGTON: Jane Fuller, Anna Mae Lowther.

CEDAR FALLS: Mrs. Charles Schwanke and Maxine Schwanke.

CEDAR RAPIDS: Norman and Floy Erickson, Beryl and Patricia Layton, Sara Millikin, Roberta Oppendahl, Lillian Serbousek.

CHEROKEE: Richard and Judy Bierman.

CLEAR LAKE: Curt Kreiger.

DAVENPORT: Peter and Mary Lou Petersen.

DECORAH: Darwin Koenig.

DES MOINES: Ruth Binsfeld, Ferne Bonomi, Ruth Buckles, Betty Ford, Bette Jones, Barbara Ray.

DUBUQUE: George and Freda Crossley, Robert and Sandy Walton.

FERGUSON: Kenneth and Jeanette Graham.

HAMBURG: Fitzhugh and Hazel Diggs.

HASTINGS: Barbara Wilson.

HOLSTEIN: Clarence E. and Mildred Lohff.

INDIANOLA: Rick and Beth McGeough.

JAMAICA: Gene and Marilyn Burns.

LAKE MILLS: Sibyl Sand.

LOHRVILLE: Margaret Seeck.

MARION: Lucile Lijedahl.

MARSHALLTOWN: Helen Botts, Laura Glasgow, Carl and Glendora Hollingsworth, Marlys Huff, Carol and Sara McMillan, Ed and Betty Savage, Jackie Stevenson.

MELBOURNE: Glen and Mabel Vauthrin.

NEWTON: Herb and Edith Dorow.

NORA SPRINGS: Dorothy Brunner.

OSKALOOSA: Keith and Irene Layton.

OTTUMWA: Randall and Nelson Hoskins.

POCAHONTAS: Ray Cummins.

ST. ANTHONY: Carl Kurtz.

SEYMORE: Charolett and R. L. Scott.

SPENCER: Burdell and Mrs. Triplett.

WATERLOO: Naomi Bandfield, Antoinette Camarata, Mabelle Hinkley, H. A. and Anna Mae Kirchgatter, John and Lois Osness.

WESTFIELD: Carol and Larry Farmer.

BELLEVUE, NEBRASKA: Ruth Green.

## Predation by the Downy Woodpecker on the Goldenrod Gall Fly Larva

RONALD K. MOELLER and MARK T. THOGERSON

LUTHER COLLEGE

DECORAH

Introduction

The objectives of this study were (1) to examine predation by the Downy Woodpecker *Dendrocopus pubescens* on the Goldenrod Gall Fly *Eurosta solidaginis*, which inhabits galls produced on the Canada goldenrod *Solidago canadensis*, and (2) to examine gall selection by the woodpecker with respect to gall diameter and distance above the ground.

Uhler (1951) observed that adult Goldenrod Gall Flies lay eggs in the terminal bud of the goldenrod. When the eggs hatch, the larvae tunnel into the soft pith of the stem, and a nearly spherical gall is formed near the top of the plant. The fly larvae have three instars, the first two of which last less than one month each; the third instar begins in July and lasts 8-9 months. The pupal stage lasts from one to two months, and ends with the emergence of adults in early May. These adults live for only a few days.

Downy Woodpeckers do not range widely, but maintain a feeding area large enough to support themselves throughout the winter. The woodpecker's food resources, although plentiful during the summer months, become increasingly scarce or difficult to obtain during the course of the winter (Bent, 1964). Deep snow limits food supplies; however, galls containing larvae usually remain above the snow, and provide an accessible source of food for the woodpeckers.

Downy Woodpeckers have been observed pecking on galls by several authors including ourselves (Ping, 1915; cited in Judd, 1953). The birds tap on the gall surface, leaving small triangular or oblong peck marks while searching for the gall fly larva's escape tunnel, which apparently provides the birds with access to the larva (Fig. 1). The larva bores the escape tunnel almost all the way to the

surface of the gall, leaving only a thin epidermal covering before retreating to the center, where it spends the winter (Fig. 2).

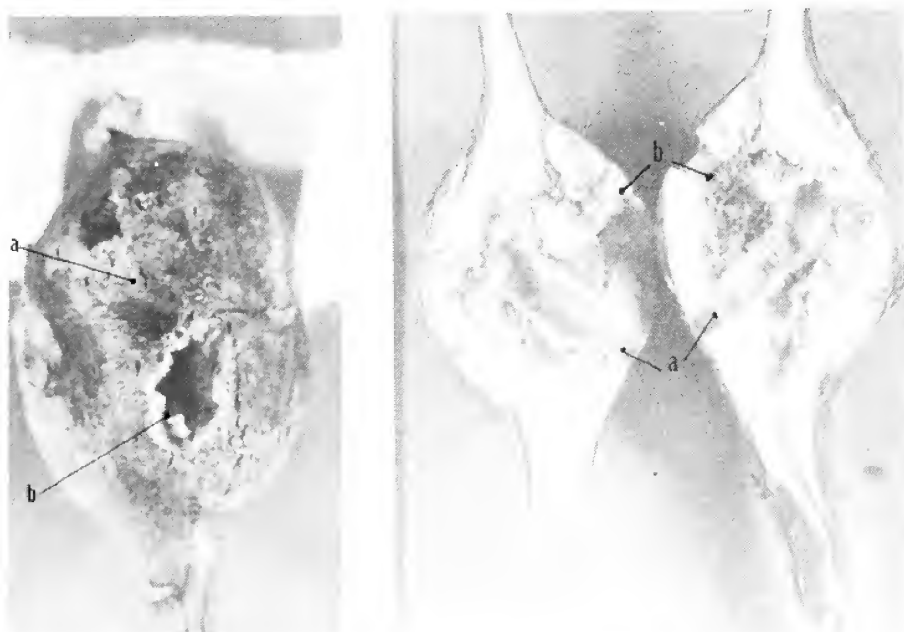


Figure 1: Typical gall predation by a Downy Woodpecker showing (a) triangular peck marks and (b) conical hole. Magnification: 2.3x.

Figure 2: Cutaway of goldenrod gall showing (a) larval escape tunnel and (b) conical woodpecker predation hole.

#### Methods and Materials

In September 1976, a 4 x 4 meter plot was measured out at the edge of an old field, between a box elder brake and a restored prairie on the Sherman Hoslett Memorial Field Study Area near Decorah, Iowa. The plot contained 85 galls, each of which was identified by a numbered tag. Measurements were taken of gall diameter (to the nearest 0.05 mm), and distance from the ground to the base of the gall (to the nearest 0.5 cm). A control plot nearby contained 28 galls and measured 1 x 3 meters. It was enclosed with plastic screen to eliminate the possibility of avian predation.

Galls with conical predation holes were collected from the experimental plot every two weeks from November 5, 1976 to May 1, 1977 and examined for signs of prior larval occupation. The control plot was also examined on each collection date. All remaining galls from both plots were collected on May 1, dissected, and the stage of development determined for each gall fly larva. Ten galls were kept, and emerging flies later identified as Goldenrod Gall Flies.

#### Results

Downy Woodpeckers selectively preyed upon galls which contained larvae over those which did not (Table 1). Two possible aspects of this selection were investigated: (1) distance of the gall from ground level, and (2) gall diameter.

Table I. Frequencies of Goldenrod Gall Fly Larval Occupation vs. Downy Woodpecker Predation on 85 Galls

(chi-square test, 1 df, p 0.025)

	Predation	No Predation	% Predation
Larva Present	20	48	34.5
Larva Absent	3	24	11.1
% Occupation	87.0	61.3	

Figure 3 shows that the diameters of galls preyed upon were significantly larger than those not preyed upon (two sample t-test, 83 df, p 0.001). It was also

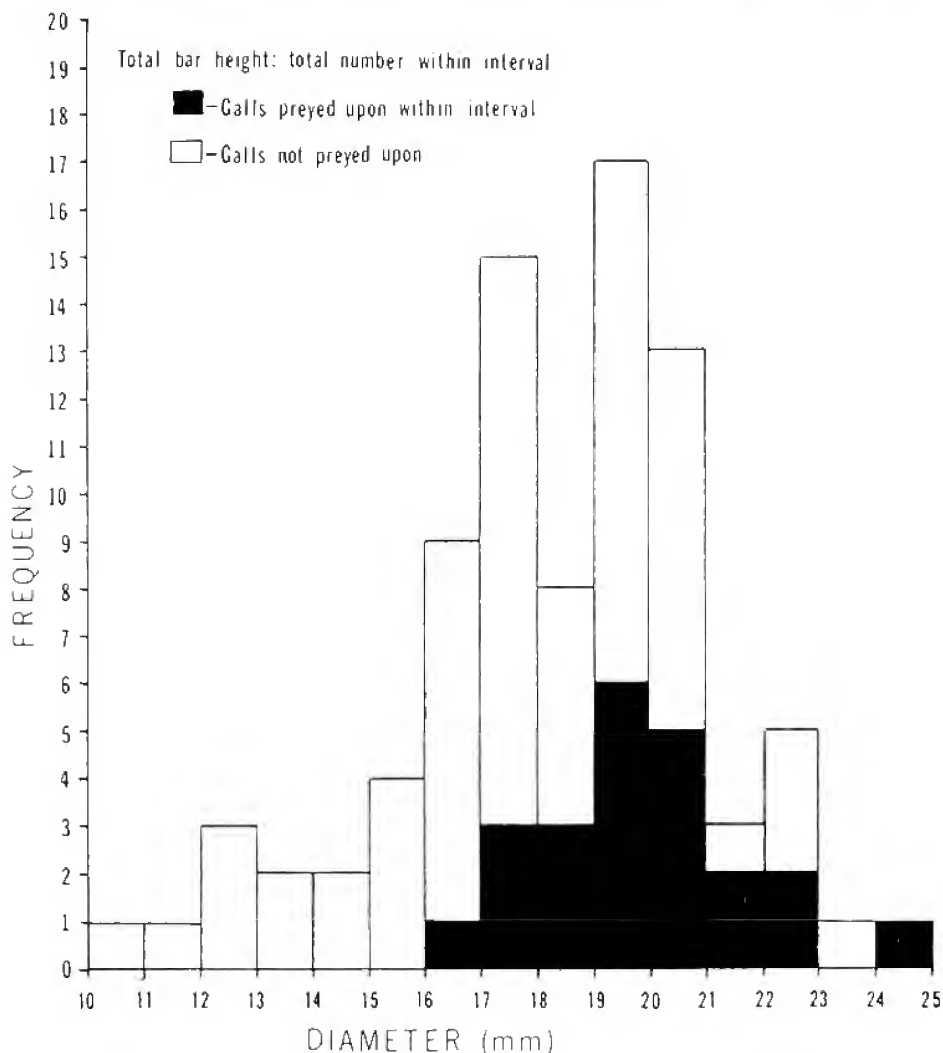


Figure 3: Frequency of predation by Downy Woodpeckers on galls having different diameters as compared to total number of galls at each diameter interval.

found that inhabited galls had significantly larger diameters than empty ones (chi-square test, 2 df,  $p < 0.05$ ). This leads one to believe that by selecting larger galls, the woodpeckers insure for themselves a greater chance of finding larvae. For example, of the nine galls in the 10-14.9 mm class, 44 percent were occupied, while of the 23 galls in the 20-24.9 mm class, 91 percent of the galls contained larvae (Table II).

Table II. Goldenrod Gall Fly Larval Occupation vs. Gall Diameter Size Classes, Indicating Dramatic Increase in Percent Occupation with Gall Diameter.

	Diameter Size Classes		
	10-14.9 mm	15-19.9 mm	20-24.9 mm
Larva Present	4	33	21
Larva Absent	5	20	2
%Occupation	44.4 %	62.3 %	91.3 %

We also tested the hypothesis that ground-to-gall distance was related to the frequency of avian predation or presence of larvae within the gall. Ground-to-gall distance was greater (Figure 4) for those galls which were preyed upon than for those which were not (two sample t-test, 83 df,  $p < 0.001$ ), but ground-to-gall distance was not related to the presence of larvae (chi-square test, 2 df,  $p < 0.05$ ).

Field observations showed that birds picked galls that were more visible, both as a result of height from the ground and diameter of the gall. This suggests that perhaps the woodpeckers pick galls which are higher off the ground only because they are more easily spotted. The birds overlooked galls which were small, and selected ones which were more likely to yield a larva. No predation on galls was noted within the control plot throughout the period of study.

#### Conclusions

The data indicated that woodpeckers chose galls which were at greater distances from the ground and larger in diameter. This suggests that ground-to-gall distance and gall diameter influence the selection of galls to be preyed upon. However, no relationship was found between the presence of larvae and gall distances from the ground, but the mean diameter of occupied galls was significantly larger than those without larvae.

During dissection of the galls, it was noted that the woodpeckers used the escape tunnel as a means of entry into the gall much more often than can be attributed to random chance. A follow-up study involving 62 galls previously preyed upon by woodpeckers showed that in 234 of these, either epidermal covering of the escape tunnel had been punctured by the bird, or the tunnel had been intersected during the act of predation.

Predation rates may have been influenced by depth of snow cover and temperature. During times of low temperature the woodpecker's high metabolic rate necessitates the finding of an easily accessible food source such as gall fly larvae. Since galls usually protrude above the snow cover, they may provide a more accessible or visible food source when snow is deep.

It may also be possible that the woodpecker learns to choose galls which are, on the average, larger than normal, and are more likely to contain food. Their behavior is then reinforced by the reward they receive when obtaining larvae from the gall. The environmental factors may, at first, have caused the woodpecker to

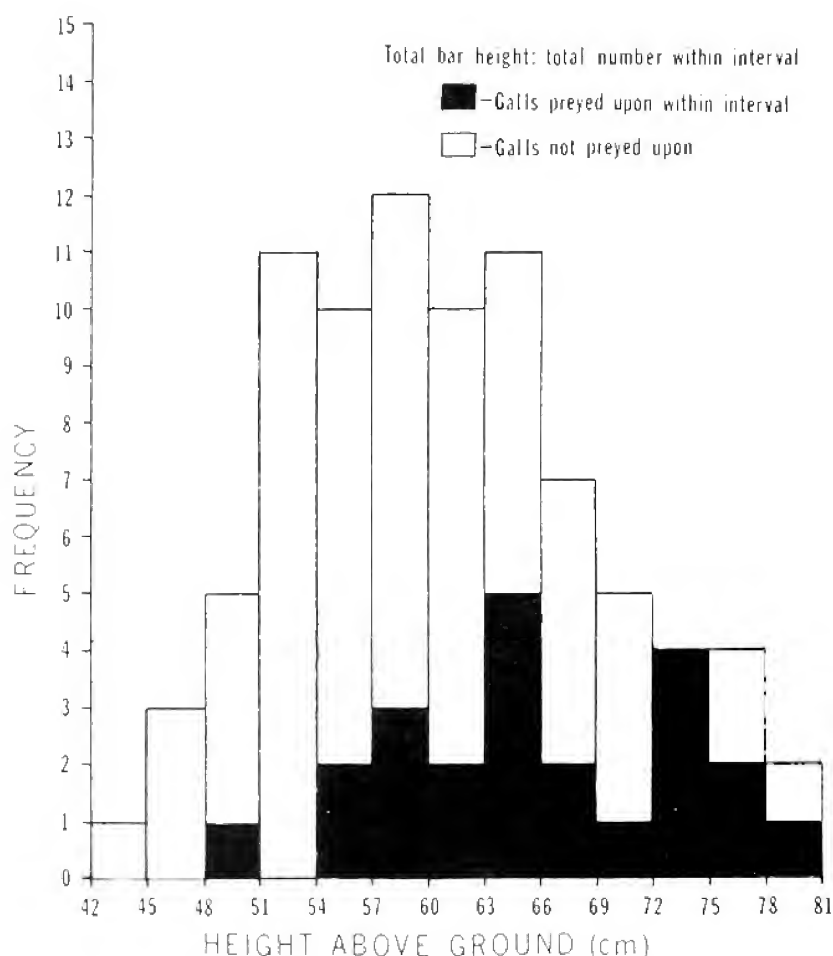


Figure 4: Frequency of predation by Downy Woodpeckers on galls located at different heights above the ground as compared to the total number of galls at each height interval above the ground.

utilize the galls, but after finding them to be a suitable food source, the behavior reinforcement may preclude these factors, and the bird may choose galls as readily as any other food source.

#### Summary

A study was made of the Goldenrod Gall Fly larva *Eurosta solidaginis* as a food source for the Downy Woodpecker, *Dendrocopos pubescens*. The woodpeckers were found to prefer galls which were higher above the ground and larger in diameter than average, and appear to have means of selecting galls containing live larvae.

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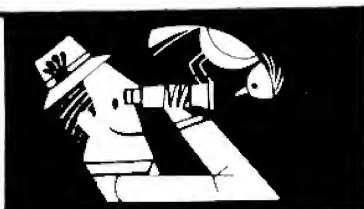
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## FIELD REPORTS



## Fall 1978

The species marked with \* are on the National Audubon Blue List (*Am. Birds* 31:1078, 1977), the Iowa Blue List (*I.B.L.* 45:95, 1975) and-or on Dean Roosa's list of endangered, threatened or declining species for Iowa (*I.B.L.* 46:40, 1976).

**General comments.** Whereas August, despite some late rain, was deficient in moisture, September more than made up for this, in addition to being the warmest in 27 years. Reservoirs and lakes were short on good shorebird habitat, and flooded fields provided more unusual sightings. October was cool, sunny, and close to average with respect to rain. Mid-November brought early winter to the northern half of the state, and ended in a freak snowstorm in the southeast. This transition from summer to winter occurred without any dramatic movements of air masses, and the relatively dull bird migration faithfully reflected the lack of meteorological spectaculars.

**Abbreviations used.** CoR - Coralville Reservoir; RRR -- Red Rock Reservoir and Refuge; HHP - Hickory Hill Park, Iowa City; L. - lake; M. - marsh; S.P. - state park.

**Loons through waterfowl.** The high count of Com. Loons was recorded on the CoR (13, November 14, NH). Horned Grebes were sparse statewide. An Eared Grebe was seen on September 29 along I-29 (IG) and one on Little Clear L. on August 28 (RC). Such western reports are hardly unusual; one at Cone M. on November 5 was more noteworthy (TSh). A \* Western Grebe was present at Greenfield Reservoir (November 15-16, GB et al.), and one on L. Anita in Cass Co. on November 23 (LP). There was a good migration of \* Am. White Pelicans across the w. part of the state, with the high count of 350 recorded at Rush L. September 14-28 (DB); at the same time, 235 rested at RRR (GB). Four at Cone M., September 17, were east of their usual flyway (TSh). \* Double-crested Cormorants were widely encountered, from September 4 to November 19. Some of the higher counts were 30 at L. Manawa, October 19 (BP), 74 at RRR, late September (GB), 25 at the CoR on September 30 (FT et al.), and 240 flying over Rush L., October 2 (DB). Great Blue Herons formed a large flock at RRR only, where they peaked at 250 (GB). These reports of Little Blue Herons were received: an immature at Mud L., August 5 (JD), one at Cone M., August 12 (MN, RD), and up to 7 (!) at Colyn Wildlife Management Area, Lucas Co., August 11-19 (Gary Bernard fide JD). Cattle Egrets are becoming a fairly common sight, in the fall as well as in spring.

One to 5 were seen in widely scattered localities, with a flock of 11 near Pleasantville in early October (GB). The total for the season was 36. The highest concentration of Great Egrets was 25 at RRR in September (GB). Eighteen Black-crowned Night Herons were reported, 10 of these at Saylorville, September 14 (fide WB); 3 lingered into early November in n.w. counties (RC,JV). The only \*Am. Bittern recorded was one by the CoR on September 30 (FT, RD). A *Plegadis* ibis was seen by numerous people September 24 - October 1 near Colo (Carl Kurtz, HZ, JD, WB). A Mute Swan occurred at Guttenberg on October 7 (R and T-LM). Three Whistling Swans were seen at Hottes L., November 11 (Gary Wee fide DH), and at Ames, November 14 (LZ); there were 50 at Lock and Dam 9 on November 15 (DK). The goose migration was considered excellent along the Missouri, with 300,000 Snow Geese still in the three counties around Council Bluffs at the end of November (JG), but was deemed very poor a little farther east (CS). A Gr. White-fronted Goose at L. Odessa, November 13, was an unusual record for the fall (DK). The duck migration drew no superlatives. A N. Shoveler on L. Manawa, November 19 (LP), was late. \*Canvasbacks were present in large numbers at Lock and Dam 9 (4500+, October 20-November 20, JS). A White-winged Scoter was documented for Nashua, October 24 (JS), and a Surf Scoter for Little Wall L., Hamilton Co., November 18 (JD). Twenty-five Hooded Mergansers on the CoR, November 11, were a personal high (TK).

**Diurnal raptors through gallinules.** A N. Goshawk was seen on October 22 near Hamburg (IG), and an immature banded at Lansing (date ?) was released on October 23 (JS). \*Sharp-shinned Hawks were widely encountered, in numbers probably above the average; for example, 31 were seen in n.e. counties September 9 - November 28 (JS). The 12 \*Cooper's Hawks seen in places from the Mississippi to the Missouri, September 5 - November 25, are a gratifyingly high count. Single \*Red-shouldered Hawks were reported from Sweet M., August 22 (JS) and Cone M., September 16 (FT). The only large kettles of \*Broad-winged Hawks seen were 287 over Iowa City, September 18 (MN) and 600 over Davenport a day earlier (PP). \*Swainson's Hawks were in the news: singles in Fremont Co., September 30 (IG) and over Ely, Linn Co., October 2 (WN), and an adult with 2 immatures near Waucoma, August 22 (JS) (relation to nearby nest not verified); the young at the nest in n.w. Iowa reported earlier (DB) were killed by a July storm, but the parents stayed into late September. Several contributors saw fair numbers of Rough-legged Hawks, some from mid-October on, but mostly in the second half of November. Northeast Iowa is establishing itself as a minor population center for Golden Eagles. Nine were seen, there during November (JS, DK), and convincing descriptions were furnished. One was shot at Carlisle, Warren Co. (GB), and taken to the ISU Veterinary Clinic for rehabilitation. Bald Eagles were reported by many observers, wherever there were rivers or lakes. The winter count will tell whether they are more numerous or were merely more conspicuous this fall. The migration of \*N. Harriers was modest everywhere except the northeast, where Schaufenbuel counted 29 vs. 20 last year. The majority of contributors mentioned \*Ospreys, seen between August 5 and November 24 (both extreme dates at the CoR, MN and TK). The total for the state was at least 32 birds. The only \*Peregrine Falcon mentioned was that seen on November 14 near Hamburg (IG), but reports of \*Merlins were relatively numerous: one on September 2 at Kent Park, Johnson Co. (TSh), others, all singles on September 13 near Spirit L. (DH), September 23 at Red Oak (TB, documented), September 28 in w. Sioux Co. (Gordon Brand fide JV), and netted near RRR by the Felsings on October 3 (GB). \*Am. Kestrels were uneven, but rather common in places, as witnessed by the 14 seen by Tom Kent on September 16, the 8 observed on the late date of November 28

(JS), and Dr. Van Dyk's remark that the Blue List status is not justified for n.w. Iowa; however, at Elkhart only 15 were banded (DM). Opinions on the abundance of Corn. Bobwhites differ, but Gray Partridges seem to be doing well in n.w. Iowa (DB, JV). A Wild Turkey with her brood of 7 was repeatedly seen n. of Iowa City, up to mid-November. Two near Inwood on August 27 may have strayed from S. Dakota (JV). There was a belated report of one King Rail with young, and a probable other pair, near Lamoni this summer (JDG). Strangely, there was no marshy habitat where they were encountered. A Virginia Rail was heard calling at Swan L., Johnson Co., September 15 (TK). Corn. Gallinules are rather rare in the state nowadays, and one in a flooded field at Iowa City was doubly newsworthy because of its late occurrence (October 15, TSh).

**Shorebirds through Terns.** A late Upland Sandpiper was reported from Waterloo (October 15, TSt). The only White-rumped Sandpiper seen was near the CoR on August 26 (FT). A few Baird's Sandpipers were recorded, no more than 2 anywhere (CoR August 26, September 9, TK et al., Allamakee Co., September 4, JS, and Credit Island, Davenport, August 1-3, PP). Three Short-billed Dowitchers at Willow Slough, September 20 (BW), were identified by their call. A total of 28 Stilt Sandpipers was reported: at Cone M. (RD), the CoR (NH) and Sweet M. (JS), but the highest concentration (13) was at Nashua (JS); all sightings were in August. In late August, up to 2 W. Sandpiper occurred at Cone M., the CoR and Nashua (TK, MN, NH, JS). A flock of 35 at Cone M., which would be exceptional, was identified as Semipalmateds by another experienced observer, and must thus be considered problematical. In this dull shorebird season, a Marbled Godwit at Cone M. on September 16 (TK) may well be the highlight, with 6 Am. Avocets between September 18 and 22 in Sac Co. (Mike Mahn fide JD) another choice for the honor. Ring-billed Gulls were not as common as in an average year, but there were 100+ at Little Wall L. on November 18 (JD). Franklin's Gulls were confined to the west, with an excellent count of 1,000 at L. Manawa on October 18 (TB). Bonaparte's Gulls were very scarce: one over the CoR on October 29 (NH), and 2 on the Cedar L. November 25 (FT). A Black-legged Kittiwake "in winter plumage" was reported from Waterloo (November 23, TSt). The description is indeed of an adult in winter plumage, but with a black bill, which is puzzling. An errant Ross' Gull flew to Chicago instead of Iowa; a navigational faux pas, without doubt! There were the usual sightings of Forster's Terns in early fall. Four \* Little Terns, 3 of them documented, were a pleasant surprise: singles at Cone M., August 21 (TK), Willow Slough, August 2 and 5 (BW), and Waterloo, August 17 (TSt). One of the western birds was an immature. Might they be re-establishing themselves along the Missouri? The peak values for Caspian Terns (26 at the CoR on September 24, TK, 25 at RRR into October, GB) are unremarkable. No major movement of \* Black Terns was observed, with a high of only 30 at Cone M. on August 8 (RD).

**Doves through Swallows.** Because of the controversy about a season on Mourning Doves (in Nebraska, it starts on September 1), the presence of 4 nests with eggs in w. counties September 10-20 (JG) deserves attention. Many people saw some \* cuckoos, but it was refreshing to read that both species were "abundant" in early fall in the west (JG). A \* Barn Owl seen on October 29 in Marshall Co., and documented (GJ), was even more pleasing, since this species has not been recorded from the state for years. A few Long-eared Owls started showing up: one as early as August 31 at Waterloo (TSt), one injured on November 20 in the Hottes L. area (DH), and 2 by the CoR on November 28 (Noel Brown fide MN). The only \* Short-eared Owls reported were 2 in the northeast on November 24 and 28 (JS). Petersen netted 10 Saw-whet Owls October 8-31; one was at Hartman's Reserve

October 24 (TSt) and another at roadkill in Pottawattamie Co. on November 14 (BW). \* Ruby-throated Hummingbirds were still scarce in most places, but 37 were counted August 11 - September 16 in the northeast (JS) and 17 banded August 17 - September 19 (PP). In early November, Belted Kingfishers were common in Des Moines River bottom areas (RC). Single Pileated Woodpeckers were seen around the CoR (August 30, TSh, November 5, MN), and they were said to be "common" (?) at George Wyth S.P., Waterloo (TSt). All contributors agreed that \* Red-headed Woodpeckers had all but vanished by early October from n. Iowa, and by November from the rest of the state. A large number of E. Kingbirds (84) were banded at Lamoni (Mrs. WD). A W. Kingbird at Lizard L. on September 20 was photographed (RC); one at Cone M. on September 3 (TK) was a most unusual record for fall in e. Iowa. E. Phoebes were rather sparse in the reports, but Petersen banded 19 September 3 - October 6. Two Say's Phoebes seen on August 25 near Missouri Valley (RG) were well described. As usual, 49 Yellow-bellied Flycatchers vs. only 4 Acadians were netted in August and September (PP). Three Alder Flycatchers were singing in early August at Sweet M. (JS), and the question was raised whether these had bred there. (Willow Flycatchers are regular breeders at Sweet M.). Comments on the unusually large number of Olive-sided Flycatchers were received from w. correspondents (IG,BW). An estimated 6,000 Purple Martins by L. Manawa were noteworthy (BP).

**Jays through Vireos.** Large flocks of migrating Blue Jays drew comments from the northeast (900 birds at Yellow River Forest and along the Mississippi, DK), the CoR area (TK), and Hamburg (IG). This was an average fall for Red-breasted Nuthatches, which were reported mostly from n. and w. parts of the state (JS,JV,JG,BW). Mrs. De Long banded 5 Brown Creepers, and a House Wren on the late date of October 23. Winter Wrens, decimated by the last 2 winters, may be coming back: 8 were seen in the northeast, September 28 - November 9 (JS), 4 on a single day in HHP (October 14, MN), and 12 netted September 22 - October 14 (PP). Carolina Wrens were still hard to find: one was present into late November in the yard (TK), and 2 all fall at L. Odessa (DK). For the second year in a row, a varied Thrush (the same bird?) started showing up at a Cedar Falls feeder (November 19, TSt). Petersen netted 65 Hermit Thrushes, 84 Swainson's, 12 Gray-cheeked and 29 Veeries this fall. A Swainson's on October 18 near Spirit L. (DH) was late. \* E. Bluebirds made a generally indifferent showing, with Gene Armstrong's 100+ outdistancing the rest of the field. Golden-crowned Kinglets were still sparse or not seen, but a recovery may be underway: 2 were banded (WD), 20 were at Lewis and Clark S.P. on September 30 (TB), and 12 at Sheldon on November 24 (JV). The total count for Water Pipits in Schaufenbuel's territory was a good 34 (October 20-November 16). The only large flock of Cedar Waxwings reported (200 birds, October 28) was seen near Coralville (MN). N. Shrikes were found on November 16 at Highlandville (DK) and November 29 w. of Spirit L. (DB). There were sporadic sightings of \* Loggerhead Shrikes, with only one in the Cherokee area all fall (DB), and a decreased number in their stronghold around Lamoni (JDG); late records are November 25 in w. Sioux Co. (JV) and November 29 near Ottumwa (fide TJ). The White-eyed Vireos in HHP were last seen on September 12 (RD). \* Bell's Vireos were reported in small numbers by several observers, into mid-September. Twelve Philadelphia Vireos on August 24 by Rush L. were an unusual concentration (DB). \* Warbling Vireos were "plentiful" at Lamoni (WD).

**Warblers through Blackbirds.** The warbler migration was unspectacular at best. The promised documentation for a Worm-eating Warbler in Waterloo on August 31 (TSt) did not reach me in time. Golden-winged Warblers were seen at

Meyer L., August 31 (JS), in the Iowa City area September 6 - 21 (TSh, RD, NH), and netted in Davenport (3, August 21 - September 1, PP). They were reported as "common" at Waterloo (TSt). An Orange-crowned at Sioux Center, November 23 (JV) was late. The shortage of fall migrant \* Yellow Warblers in the west contrasted with their good spring showing (JG). Cape May Warbler sightings were better than average: 4 at Meyer L. and Sweet M., September 3 - 21 (JS), and one at Waterloo on September 3 (TSt). There were also 2 Black-throated Blue Warblers at Meyer L. on September 2 and 17 (JS), respectively; one each was netted on September 5 and October 5 (PP). Six Black burnians at Yellow River Forest on August 12 were early (JS). Bay-breasted abounded at Waterloo (TSt). There were two records of Pine Warblers: one at Sweet M., September 21 (JS), the other at HHP, September 3 (MN). An early N. Water thrush showed up on August 12 near the CoR (TK). A Connecticut Warbler was banded on August 29 (PP) and another seen at HHP on September 8 (TK, TSh). Of several Mourning Warblers reported, the one on August 20 at Willow Slough was most interesting because of the w. location (BW). Owing to the mild weather, the exodus of blackbirds from n.w. Iowa was delayed. Several people remarked, on the other hand, how hard it was to find meadowlarks in November. As one would expect, Yellow-headed Blackbirds lingered into August at nesting sites, but an adult male at Trumbull L. on November 11 was very late indeed (DB). The number of Red-winged Blackbirds in the RRR area in late September - early October was estimated at 2 million (GB), in the range of Kentucky or Tennessee winter roosts. Observers in the Iowa City area were struck by the paucity of Brown-headed Cowbirds. (Blue-listed cowbirds?? Stop dreaming, compiler!).

**Tanagers through Sparrows.** The only Summer Tanager reported was seen on August 8 at Waubonsie S.P. (TB) (where else?). Most observers called the sparrow migration rather poor, but at Sioux Center it was "spectacular" (JV). Recovery of N. Cardinal populations in n. Iowa (where the toll taken by the rough winters was evident) seemed to be in progress (JV). Small numbers of Evening Grosbeaks started appearing in mid-November, with the 10 seen in the northeast accounting for well over one-half the sightings. There is increasing evidence that if there is a single Evening Grosbeak around Iowa City, it will show up at my neighbors' feeder, as it did on November 28 (HO). Purple Finches showed up early and vanished soon at Ely (August 29 - September 17, WN); in the northeast they stayed on, peaking in October (JS). This was an average fall for Pine Siskins in the northeast, where they first appeared in late September (JS); there were a dozen in Des Moines (WB). Nobody mentioned crossbills: obviously, this was not a great season for winter finches. A Le Conte's Sparrow was seen by many at Hendrickson M. near Ames on September 24 (PP). A Vesper Sparrow by the CoR on October 27 (RD) was rather late. Harris's Sparrows were widely seen, for the first time in fall by one contributor (CS). Lapland Longspurs were first recorded on October 7 (JS, TSh); in the northeast, flocks of several hundreds were present on November 2 and 9, but none past mid-November (JS); in the northwest, a flock of 85 on November 12 was tops (DB). Snow Buntings first appeared in late October (2 at the CoR, MN); by mid-November there were flocks of moderate size in Fayette and Allamakee Counties (JS, DK), and by November 28 around Sioux Center (JV). N. S. HALMI, R. 6, IOWA CITY, 52240.

**Contributors:** Gene Armstrong, Booneville; Dick Bierman, Cherokee; Gladys Black, Pleasantville; Tanya Bray, Omaha, NE; Woodward Brown, Des Moines; Raymond Cummins, Pocahontas; Rich De Coster, Chicago, Ill.; Mrs. Wallace DeLong, Lamoni; James Dinsmore, Ames; Ione Getscher, Hamburg; J. Donald Gillaspay, Lamoni; Ruth Gochenour, Missouri Valley; Janet Greer, Council

Bluffs; Nicholas Halmi, Iowa City; Douglas Harr, Lester; Tom Johnson, Ottumwa; Greig Jones, Ames; Thomas Kent, Iowa City; Darwin Koenig, Decorah; Randall and Tomma Lou Maas, Story City; Dean Mosman, Elkhart; Weir Nelson, Ely; Mike Newlon, Iowa City; Helen Osmundson, Iowa City; Babs and Loren Padelford, Bellevue, NE; Peter Petersen, Davenport; Joe Schaufenbuel, St. Lucas; Conrad Schlemmer, Spencer; Thomas Shires, Iowa City; Tom Stone, Jr., Waterloo; Fred Thompson, Marion; John Van Dyk, Sioux Center; Barb Wilson, Hastings; Hank and Linda Zaletel, Ames.

**Reminder:** Winter reports up to February 10, for I.B.L., are due by February 15. Supplements for significant observations for the rest of February should be received as early in March as possible; these will be summarized for publication along with the spring report in I.B.L., and will be submitted to *Am. Birds* along with the main winter report, to cover the winter season as defined by them (December 1 - February 28). N.H.

## GENERAL NOTES

**Red-tailed Hawk Migration in Western Iowa** -- On 29 October 1977 Jim Dunsmore, Dave Newhouse, Rhett Faaborg and I counted 34 apparent migrant *Buteo* hawks along State Highway 30 between DeSoto National Wildlife Refuge and Carroll, Iowa. This road survey was begun at 1630 and ended at dusk at 1820, probably the time period that many migrating hawks hunt from perches before roosting for the night. The total distance covered, according to the automobile odometer, was 77 miles, giving a frequency of 0.44 buteos per highway mile. Dr. E. E. Klass (pers. comm.), who has made several trips along this route has never observed such high numbers of hawks, which indicates many of the birds we observed were migrants. The greatest concentration of birds was between DeSoto NWR and Vail, Iowa where 0.53 buteos per mile of highway were seen. A similar road survey in New Mexico on 26 October 1975 in an area where raptors were considered abundant had a frequency of 0.44 buteos per mile (Bednarz, Unpubl. data). This suggests that areas along State Highway 30 and possibly other areas in western Iowa are important stop over points for migrating buteos.

Thirty-one buteos were identified as Red-tailed Hawks (*Buteo jamaicensis*). We were unable to identify 3 buteos, however, these were probably also Red-tailed Hawks. East of the Mississippi River, Red-tailed Hawk migration in the northern U.S. reaches its peak at the end of October and in November, while other raptor species have essentially completed their migration by this time (Heintzelman 1976, *A Guide to Eastern Hawk Watching*, 99 pp.) Additional data collected on Red-tailed Hawks during the survey is as follows:

Age		Color Phase	
Immature	18	Light	24
Mature	10	Intermediate	5
Undetermined	3	Dark	0
		Undetermined	2
Total	31		31

The high immature to mature ratio of 1.8:1.0 suggests the count date was in the first half of the Red-tailed Hawk migration period as young birds are the first to migrate in the fall (Austing 1964, *The World of the Red-tailed Hawk*, 128 pp.). Three Am. Kestrels (*Falco sparverius*) were also seen during the road survey.

The results of this raptor count suggest that periodic road surveys of certain routes would yield valuable information about hawks migrating through Iowa. Road counts during migration could reveal relative numbers of hawks migrating through Iowa, time periods of migration, effect of weather on migration, species

composition throughout the migration period, variation of age composition through the migration period, etc. One such route where periodic raptor counts should be taken is State Highway 30 from the Missouri River to Vail, Iowa. This route is an ideal stop over point for migrating raptors because it follows the Boyer River, an adjacent railroad right-of-way provides habitat and cover for many prey species, and the highway parallels several power lines, which provide resting and hunting perches for the hawks. I would like to thank J. J. Dinsmore for his helpful suggestions. JIM BEDNARZ, Dept. of Animal Ecology, I.S.U., Ames.

**One Day Eagle Count, 11 Feb. 1978** -- As in the past most of the Mississippi River was surveyed from its source to below St. Louis and then into Kentucky and Tennessee. The Wisconsin River was mostly frozen and was not covered. Six eagles wintered near its mouth. The Illinois River was only partially covered. The area from Bellevue to Warsaw was again covered by plane furnished by Dr. Heyden DeDecker with Peter Petersen counting. Also the Keokuk to Warsaw area was covered by cars and a plane under the leadership of James Stanton. A careful study was made of the two flights and other ground crews and a most conservative approach was used. Perhaps 20 to 30 eagles were left out. About 850 people took part with St. Louis Audubon Society with 335 people as the leaders. Fish & Wildlife and Game Management personnel and Lockmasters and Audubon Clubs and others took part.

LOCATIONS	ADULTS	IMMATURES	NOT AGED	TOTAL
Lock & Dam 3 thru 11 and to Lock 12	160	20	1	181
Lock & Dam 12 thru 22	496	94	21	611
To below St. Louis	160	64	23	247
Illinois River	21	20	7	48
Kentucky along river	2	5	0	7
Tennessee along river (see comment)	76	87	0	163
Kentucky away from river	19	54	0	73
Tennessee away from river	24	31	0	55
Illinois Refuges (partial)	19	41	1	61
Totals	977	416	53	1446
Percentage	70	30		
Five year average	71	29		
Eagles from other areas-partial counts only				
Nebraska	42	25	0	67
DeSoto National Refuge, Iowa	24	15		39

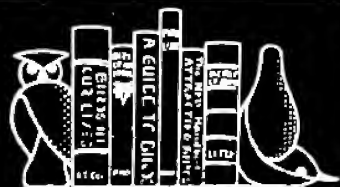
Aerial count St. Joseph to Waverly, Mo. 21 adults, 14 immatures.

**COMMENT:** Due to poor visibility some birds were probably missed. The immatures would be the easiest missed. 30 Golden Eagles were found. This is the highest count. Severe weather forced the eagles southward as the winter progressed. In the Tennessee Count along the Mississippi a three hour areal survey was made by Wendell E. Crews on the tenth. The birds were found within a 20 mile radius of Reelfoot Lake with only 4 eagles at the lake. The flight was from Hickman, Ky. to Caruthersville, Mo. and so includes birds from Kentucky and Missouri as well as Tennessee. The winters high count of eagles were at Squaw Creek National Wildlife Refuge at Mound City, Mo. 187 adults and 131 immatures for a total of 318. This was 21 Dec. 77. None were found 11 Feb. This count was partially financed by the National Wildlife Federation. -- ELTON FAWKS, 510 Island Ave., East Moline, Ill.

**Bald Eagle Swims Across Lake Macbride**-- As I approached Lake Macbride from the south on November 24, 1978, I noted a large bird, probably an eagle, sitting in a tree on the south shoreline. Before driving down the road on the south side of the lake for a better look, I stopped at the bridge for a close look at a diving Common Loon and a Horned Grebe. Two Ring-billed Gulls were flying at mid-lake over a large gull resting on the water. The resting bird appeared to have something in its beak and one wing slightly out of place. Driving south along the lake shore I flushed a Belted Kingfisher and at a small cove stopped to look at five female and one male Hooded Merganser and a larger female meganser, probably a Common Merganser. Soon the mergansers flushed and as I followed them out across the lake an immature Bald Eagle sitting in a tree at the entrance to the cove came into the field of my binoculars. I watched the eagle for several minutes before it flew out over the lake. To my surprise, the eagle began to circle over the large gull at mid-lake. The gull did not appear to resist or attempt flight as the eagle grasped at it on the third pass. On the fifth or sixth pass the eagle snared the gull in its talons and lifted it off the water. However, the eagle could not gain altitude with the flapping gull in its talons. Neither could it drop the gull. After flying just above water level for about thirty yards toward the other side of the lake, both birds fell into the water. The eagle floated high on the water with the gull behind but still attached. The eagle flapped its wings in a futile attempt to take off. I was unsure what would happen to the bird and wished I could help. After a minute or two the eagle found a solution to its dilemma. It spread its wings and began swimming with a butterfly-type breast stroke -- the wings were raised, brought forward, and then forced back against the water to propel the bird forward. It took seven minutes by my watch for the birds to reach shore at the point where the Bald Eagle had previously been perched. The gull had drowned while being submerged during the swim. I thought the eagle would be too waterlogged and exhausted to fly after it reached shore, but it hopped onto the shore, shook the gull from its talons and within seconds flew off down the lake. I went out and examined the dead mature Herring Gull at the water's edge. Its large yellowish bill was hooked at midpoint by a ten centimeter long fish lure. T. H. KENT, 211 Richards St., Iowa City.

**That Ringed Turtle Dove again.** -- One summer day in 1976 Dean Mosman, a licensed bander, received a call from a resident in the north-central part of Des Moines. The call referred to a strange bird which had been induced to enter a cage. Dean identified the bird as a Ringed Turtle Dove (*Streptopelia risoria*) and banded it with a F & WS band. On 15 July, 1977, Mrs. Helen Peasley called me to say that a Ringed Turtle Dove was in her yard (IBL XLVII: 112). The bird, or another of the same species, appeared in her yard on 14 September, and this time an aluminum band was noticed on the left leg. In the meantime, on 3 September I received a "what kind of bird is it?" call from R. H. Cunningham of Norwalk, a few miles south of Des Moines. From Mr. Cunningham's description this was a Ringed Turtle Dove. It had been feeding for some time on autumn olives in his yard and was quite tame. It could be approached to within a few feet and an aluminum band was plainly seen. A few days later Gene and Mrs. Armstrong saw the bird in the Cunningham yard and confirmed the identification. It has recently been learned from Dr. Dinsmore that Ringed Turtle Doves are being bred at ISU in connection with genetics studies, but it is thought improbable that the Polk Co. bird is an escapee from there. -- WOODWARD H. BROWN, 432 Tonawanda Dr., Des Moines, 50312.

## BOOK REVIEWS



**An Annotated Check-list of the Birds of Illinois** -- H. David Bohlen-Illinois State Museum, Springfield, Popular Science Series Vol. 9 -- 156 p., 2 maps -- 1978-- \$2.00 plus 75 cents postage, paperbound.

It has been over 20 years since Illinois has had an up-to-date checklist, so this book will be greatly appreciated by students of Illinois birds. The collections were carefully checked, however some sight records have been omitted, especially noticeable were some gull records for the Mississippi in the Quad-City area. For each of the 370+ species listed for Illinois the author includes months of occurrence, status, specimens and remarks. The remarks section gives habitat and many specific records. It is a book well worth having even if you do not bird watch in Illinois as the general information fits Iowa for most species.

On the subject of Illinois birds, a fine series of short booklets on several groups can be obtained free of charge from the Illinois Natural History Survey, Urbana. Written by Jean and Richard Graber and Ethelyn L. Kirk they cover herons, woodpeckers, flycatchers, swallows, mimics, thrushes and shrikes. If you order these just ask for Biological Notes numbers: 68, 75, 80, 83, 86, 97, 102 and 109. ed.

**A Guide to North American Bird Clubs** -- Jon E. Rickert -- Avian Publication Inc., Box 310, Elizabethtown, Ky. -- 587 p., 65 maps -- 1978 -- \$15.00 plus 75 cents postage.

Over 835 state and local bird clubs are covered in this new type of guide. Two contact people, publications, field trip patterns and meeting information is given for each of the clubs. The Iowa clubs covered are the I.O.U., local clubs in Ames, Burlington, Cedar Falls, Cedar Rapids, Clinton, Davenport, Decorah, Des Moines, Dubuque, Iowa City, Marshalltown, Mt. Pleasant, Ottumwa, Sioux City and Waterloo. It can obviously be very helpful to contact local birders before visiting a new area. This book lists many local bird finding guides, taped rare bird alert numbers and favorite birding areas of each club. It is a very good source book for the birder. ed.

**Birds of Man's World** -- Derek Goodwin -- Cornell University Press, Ithaca, N. Y. -- 192 p., 20 black-and-white photographs, 11 line drawing -- 1978 -- \$10.95.

Goodwin covers many of the ways in which birds have adjusted to man's presence and activities throughout the world. Since he is British there is emphasis on European birds. Some man-bird problems are overlooked including hunting, falconry, and structure kills. The subject of introduced birds is well presented. It is readable and interesting but not the last word. ed.

**Prairie Ducks** -- Lyle K. Sowles -- 193 p., many black-and-white photographs, line drawings, maps and charts -- 1978 -- paperbound, \$3.50.

This reprint of a 1955 book makes available again one of the most basic waterfowl management texts. The bulk of the text deals with research on Mallards, N. Shovelers, N. Pintails, Gadwall and Blue-winged Teal. The reader must be continually aware that this data was compiled over 20 years ago. It would have been even more valuable had it been revised. Nevertheless it is still valuable and the price is very reasonable in the period of expensive books. ed.

**The Gannet** -- Bryan Nelson -- Buteo Books, P. O. Box 481, Vermillion, S. D. -- 336 p., 32 p. of black-and-white photographs, many line drawings, maps and tables -- 1978 -- \$25.00.

Anyone who has visited Bonaventure Island during the breeding season knows the Gannet as a bird with a very spectacular method of feeding. Nelson has spent many years engaged in the study of this species. The book covers plumage, shape, structure, voice, numbers, distribution, behavior, ecology, the bird at sea, the Gannet family and order and its relationship with man. The stress is on the American and European populations. The author considers the Gannet a super-species and covers the other forms, Australian and African, in less detail. The boobies are also examined. It is a non-technical book which manages to convey a vast amount of information. ed.

**North American Ducks, Geese and Swans** -- Donald S. Heintzelman -- Winchester Press, New York, N. Y. -- 236 p., many maps, line drawings, black-and-white and color photographs -- 1978 -- \$15.00.

It would seem that the recent rash of waterfowl books had saturated the field. However, this book hits two areas not previously dealt with in detail. One is a 53 page section on waterfowl identification using many photographs. This is not entirely a new approach but could be more helpful for field identification than some previous efforts. The most interesting feature is a 128 page section on waterfowl refuges. Many maps are included as well as what each refuge has in the way of bird lists and other literature. This section could be especially useful to the traveling birder. Other chapters cover techniques of waterfowl study, migration data, and local waterfowl viewing areas. It is indeed a book worth examining. ed.

**Birds of Southeastern Michigan and Southwestern Ontario** -- Alice H. Kelley -- Cranbrook Institute of Science, Bloomfield Hills, Michigan -- 99 p., one map -- 1978 -- paperbound, \$3.00.

This well backgrounded annotated list is an end result of the Detroit Audubon Society bird survey begun in 1945. Many comments refer to status changes over the thirty year period. As with the **Birds of the Ligonier Valley** (I.B.L. Vol. 48 p. 82) it could serve as a model for other regional efforts for areas of relatively small size and, in this case, crossing an international border. ed.

**Saving Oiled Seabirds** -- Anne S. Williams -- American Petroleum Institute, 2101 L. St. N. W., Washington, D. C. 20037 -- 35 p., many line drawings -- 1978 -- paperbound, single copies free.

At first glance this booklet might not seem to apply to Iowa, but oil spills can occur on any body of water and have occurred on the Mississippi River. The author is associate director of the International Bird Rescue Research Center and was assisted by other staff members. The text covers general effects of stress, safety precautions, collecting and treating birds, feeding, cleaning and drying, preparing for release, and record keeping. It seems easy to follow and would be advisable to have if you are known in your area as a "bird person" called upon for bird related advice. ed.

**The Coot and the Moorhen, the Grebes and the Black-headed Gull** -- Jon Fjeldsa -- A. V.-Media, Morre Sogode 35 A, 1370 Copenhagen K, Denmark -- 56, 64 and 64 p. respectively -- many line drawings and black-and-white photographs -- 1977 -- paperbound, 33 crowns each, 8.50 crowns postage (5.5 crowns equals \$1.00 U.S.).

These children's booklets cover several marsh dwellers, the Moorhen being called the Common Gallinule in the U.S. The price of the booklets illustrates the low value of the U. S. dollar in Europe. Several of the grebes are found in the U. S., the Black-headed Gull is strictly European. Well illustrated, they present the basic life history information in an easily understood manner. There would seem to be a market for this type of book to be produced by U. S. publishers. ed.

**Owls by Day and Night** -- Hamilton A. Tyler and Don Phillips -- Naturegraph Books, Happy Camp, California -- 208 p., 16 color plates and many maps, line drawings and black-and-white photographs -- 1978 -- paperbound, \$6.95.

This book adds another title to the list of recent publications dealing with owls. It provides more general natural history background on the owls than field guides and includes an interesting chapter on owls and Indians. Mr. Phillips' color plates are well executed and present some unique compositions. The book does not seem to contain an extensive quantity of new material but does put together current information on these interesting birds. ed.

**A Year with New England's Birds, A Guide to Twenty-five Field Trips** -- Sandy Mallett -- New Hampshire Publishing Co., Somersworth, N. H. -- 120 p., one map, many black-and-white photographs and line drawings -- 1978 -- Paperbound, \$5.95.

Those of you who are used to Jim Lane's bird finding guides will find this book uses a different approach. The pattern is a very general narrative combined with a list of the birds to be expected in the suggested visitation season. To judge the book, I considered the Bluenose trip listed for July, which I took in June of 1977. Several errors were noted: Greater Shearwaters are referred to as "common" on the California coast where they are not found, Common Puffins are mentioned as nesting "in the hundreds at Perce Rock, Quebec" while a recent Canadian publication lists none breeding there and but a few pair on Bonaventure Island, finally the bird list includes "Arctic Gull" a new species probably belonging with the terns. Judging by this section it seems to be a book that cannot be considered authoritative. ed.

**Flying Feathers** -- Iain Grahame -- St. Martin's Press, New York -- 148 p., many line drawings -- 1977 -- \$7.95.

The author established a wildfowl farm in Suffolk, northeast of London, about fifteen years ago. Since then he has succeeded in breeding some endangered species including the blood pheasant. He was the first to breed this pheasant in captivity. In addition to being an interesting, well told story, the book proves that an individual can contribute significant conservation work through care and perseverance. ed.

**Where to Watch Birds in Europe** -- John Gooders -- Taplinger Publishing Co., New York, N. Y. -- 305 p., many black-and-white photographs and maps -- 1978 -- \$10.95.

This is an unrevised reprint of a book first published in Europe in 1970. Despite this shortcoming the book proved of value to us in June of 1978. The author covers a country per chapter with 8-15 areas included per country. The area data varies with the large, important and more varied areas such as the Coto Donana in Spain rating 4 or 5 pages. The habitat is described and the seasonal species, usually breeders, are listed. It is the best available bird finding book for Europe but not up to Lane's standard although it covers much more territory. Caution must be exercised as a friend was following the book in Yugoslavia this spring and instead of finding a Lammergeier he found a radar station and was arrested. ed.

**The American Eagle in Art and Design** -- Clarence P. Horning -- Dover Publications, Inc., New York, N. Y. -- 115 p., 321 black-and-white photographs -- 1978 -- paperbound, \$5.00.

Several years ago we reviewed an earlier volume dealing with the use of the Bald Eagle as a design motif (I.B.L. Vol. 46 p. 66). This new book is much more reasonably priced and is composed almost entirely of photographs of eagles and the way they have been used in print, wood, metal fabric, ceramics and glass. Included are fourteen photographs of live eagles. ed.

**Treasury of Birdlore** -- Joseph W. Krutch and Paul S. Ericksson, editors -- Paul S. Ericksson Publishers, Middlebury, Vt. 05753 -- 390 p., 32 pages of black-and-white illustrations -- 1977 -- paperbound, \$7.95.

First published in 1962, this anthology is composed of 82 short items by some of the best known writers of North America. Among those included are Audubon, Burroughs, Bent, Forbush, Griscom, Hickey, Peterson, Seaton, Sutton, and Terres. The selections are divided into five sections covering flight, family matters, birds of a feather, birds and men, and finally extinction and conservation. The selection has been praised as one of the most readable anthologies on natural history ever published. ed.

**Rare Pheasants of the World** -- D. Grenville Roles -- Spur Publications Co., Hill Brow, Liss, Hampshire, U.K. -- 106 p., 2 color plates and 27 line drawings -- 1976 -- \$15.00.

This book is intended primarily for pheasant breeders. It presents details on feeding, breeding and housing pheasants. As the natural habitat of these species in parts of Asia becomes increasingly altered by man their breeding in captivity becomes more important. Twelve pair are illustrated in color and others are represented by large scale line drawings. ed.

**A Fancy For Pigeons** -- Jack Kligerman -- Hawthorn Books, Inc., New York -- 216 p., many black-and-white photographs -- 1978 -- \$12.00

For years most birders ignored Rock Doves. Now they are on our lists but are still nearly ignored. If you are curious about the evolution of the species, the unsolved mystery of homing or the ancient dove-cotes of Europe, this book will answer your questions. Some pigeons are valued at \$18,000, a surprising fact to this reviewer. The book will probably fill a void in the libraries of most birders. ed.

**Joy of Nature -- How to Observe and Appreciate the Great Outdoors** -- Alma E. Guinness, Editor -- Reader's Digest Assoc., Inc., Pleasantville, N. Y. -- 352 p., many maps, color plates and photographs -- 1977 -- \$15.95

This beautiful book is not field guide size but it contains a great deal of valuable, well presented material. Some chapters deal with specific habitats, others with related sciences such as weather, astronomy, geology and earth history. How to look at nature and participate in outdoor activities are the chapters that round out the text. Emphasis is on North American forms but some foreign species are included. The chapters are divided into a dozen or more two page sub-topics. Scattered throughout the text are brief features such as birding, collecting and photo tips, nature observer notes, how to, and safety, hiking and camping sections. These are listed in the front so the reader can quickly find all the birding tips for example. The layout is excellent and many great photographs are included. Anyone with a love for nature would enjoy browsing or reading this excellent volume. ed.

A fifth edition of **Waterfowl in Iowa**,-- by Jack W. Musgrove and Mary R. Musgrove, has been issued by the State Conservation Commission. Mr. Musgrove is Director of the Division of Museum and Archives of the State Historical Department, and the book is an inter-departmental cooperative project. For this edition, the text has been brought up to date, new records have been added, along with more material on life histories, and the entire book has been completely rewritten. Illustrations are those done for the first edition (1943) by Maynard Reece, who was at that time employed in the Historical Museum. Available from the State Conservation Commission, Wallace Office Building, Des Moines, Iowa 50319; hard cover, price \$3.00. This may be of interest to IOU members, since the fourth edition has been out of print for a long time. -- MRS. JACK MUSGROVE.

**The Birds of South Dakota -- An Annotated Check List** -- Nathaniel R. Whitney, Jr., Chairman, Byron E. Harrell, Ed., Bruce K. Harris, Nelda Holden, James W. Johnson, B. J. Rose and Paul F. Springer -- South Dakota Ornithologists' Union, Rt. 4, Box 68, Brookings, S. D. 57006 -- 366 p., 6 color plates, 43 black-and-white photographs, 380 maps, one table and many line drawings -- 1978 -- paperbound -- \$10.00 & \$1.00 postage.

A product of twelve years of dedicated effort on the part of the authors, this book brings South Dakota into the fold of states with current state bird books. The introduction describes the physical features, characterizes the avifauna, indicates man-made changes, covers the ornithological history and explains the layout of the species accounts. A table summarizes the abundance and seasonal occurrence for the 377 species of South Dakota. The species accounts discuss status, habitat, migration dates with locations and include a range map. Small line drawings by E. W. Steffen of Cedar Rapids add variety to the species accounts. Photographs show 43 habitat types within the state. It is a well produced book which anyone interested in the birds of our neighboring state will want. ed.

**Bird Families of the World** -- C. J. O. Harrison, Advisory Editor, Illustrations by Ad Cameron -- Harry N. Abrams, Inc., New York -- 256 p., over 500 color illustrations -- 1978 -- \$25.00.

This beautifully illustrated volume is a coverage of both living and extinct bird families. The text was written by 42 well known ornithologists, each dealing with their specialty. They summarize the characteristics of the family, its distribution, feeding habits, courtship, nesting, young, behavior, economic importance and composition. The illustrations depict many species and some unusual plumages, feeding habits, courtship and nesting variations. The art work is worth the price alone, coupled with the text it is a bargain. ed.

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I certify that the statements made by me above are correct and complete.